

AMENDMENTS TO THE CLAIMS

1 to 20. (Canceled)

21. (New) A method for the treatment of waste water from an activated sludge process which comprises:

a. admixing waste water from an activated sludge process or clean water with 50 volume % or less of reactive gas consisting essentially of oxygen or a mixed gas consisting essentially of oxygen and ozone to form an aqueous medium,

b. subjecting said aqueous medium in an in-line atomizer to a pressure of about 0.981 to 5.394 MBa (1 to 55 kg/cm²) to generate cavitation and ultrasonic waves of 20 to 12,000 kHz, whereby O/OH radical molecules/atoms are formed, so that the reactive gas is dissolved to the limit and the remainder, if any, of the reactive gas is dispersed and mixed bubbles of 1 nm to 30,000 nm diameter, forming a reactive gas-dissolved/dispersed liquid and

c. introducing the reactive gas-dissolved/dispersed liquid into the waste water being treated.

22. (New) The method of claim 21 in which the BOD loading of the aforementioned waste water under treatment is in the range from 50 to 200000 mg/liter.

23. (New) The method of claim 21 in which the concentration of ozone in the aforementioned active gas is adjusted to 0.01 to 0.04 mg/liter so as to cause self-oxidative annihilation of the activated sludge.

24. (New) The method of claim 22 in which the concentration of ozone in said reactive gas is adjusted to 0.01 to 0.04 mg/liter so as to cause self-oxidative annihilation of the activated sludge.

25. (New) The method of claim 21 in which the length of time taken for up-to-limit dissolution of the reactive gas in the atomizer does not exceed 0.5 second.

26. (New) The method of claim 22 described in claim 13 in which the length of time taken for up-to-limit dissolution of the reactive gas in the atomizer does not exceed 0.5 second.

27. (New) The method of claim 23 in which the length of time taken for up-to-limit dissolution of the reactive gas in the atomizer does not exceed 0.5 second.

28. (New) The method of claim 24 in which the length of time taken for up-to-limit dissolution of the reactive gas in the atomizer does not exceed 0.5 second.